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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/760,575 | 01/20/2004 | Vishal Bansal | SS306SUSDIV | 1039 |

23906 7590 11/10/2004

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WILMINGTON, DE 19805

EXAMINER

DEL SOLE, JOSEPH S

ART UNIT

PAPER NUMBER

1722

DATE MAILED: 11/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/760,575

Applicant(s)

BANSAL ET AL.

Examiner

Joseph S. Del Sole

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 11-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/18/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Priority

1. This application filed under former 37 CFR 1.60 lacks the necessary reference to the prior application. A statement reading "This is a divisional of Application No. 09/915,688, filed 7/26/01 and now US Patent 6,776,858." should be entered following the title of the invention or as the first sentence of the specification.

Information Disclosure Statement

2. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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4. Claims 11-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Bentley et al (6,565,344).

Bentley et al teach an extrusion die (Fig 3) having a row of die orifices (Fig 4, #s 26a and 26b) each having at least two separate supply ports (Fig 3, #s 52 and 54) entering from an entrance portion of the die, each of the polymer supply ports communicating with separate rows of extrusion capillaries having exit openings at an exit portion of the die (Fig 5); gas supply ports (Fig 3, #s 72 and 74) entering from the entrance portion of the die (Fig 3) and arranged laterally to the polymer supply ports (Fig 3), the gas supply ports communicating with gas jets (Fig 3, #s 76 and 78) extending through the die and arranged laterally to the exit openings of the extrusion capillaries (Fig 3), wherein the rows of extrusion capillary exit openings and the gas jets communicate with a blowing orifice in the exit portion of the die (Fig 3A); the extrusion capillaries are angled toward a common longitudinal axis; the extrusion die has two gas jets and the extrusion capillaries and the gas jets are angled toward a common longitudinal axis.

5. Claim 16-17 rejected under 35 U.S.C. 102(b) as being anticipated by Terakawa (5,601,851).

Terakawa teaches an extrusion die (Fig 1) having two separate polymer supply ports (Fig 1, #s 7a and 7b) entering from an entrance portion of the die, the polymer supply ports communicating with separate extrusion capillaries having exit openings at an exit portion of the die (Fig 1), the separate extrusion capillaries cooperating as a combined orifice (Fig 1, #15), at least one gas supply port (Fig 1, #18) entering from the

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entrance portion of the die, the gas supply port communicating with at least one gas jet extending through the die and arranged concentrically around the exit openings of the combined orifice (Figs 8, lines 28-38); the extrusion capillary exit openings and the gas jet communicate with a blowing orifice in the exit portion of the die (Fig 1); and the extrusion capillaries are angled toward a common longitudinal axis (Fig 1, #12).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claim 15 rejected under 35 U.S.C. 103(a) as being unpatentable over Bentley et al (6,565,344 B2) in view of Allen (6,491,507).

Bentley et al teaches the apparatus as discussed above including angled extrusion capillaries and gas jets which are angled toward a common longitudinal axis.

Bentley et al fail to teach the extrusion capillaries being parallel to one another rather than being angled.

Allen teaches extrusion capillaries (Fig 2, #s 98 and 100) which are parallel to each other and along with gas jets (Fig 2) communicate with a blowing orifice (Figs 2 and 3) for the purpose of allowing the parallel capillaries to deliver individual liquids to a combining member.

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the apparatus of Bentley et al with extrusion capillaries that are parallel rather than angled as taught by Allen because it enables the liquids of the separate capillaries to be combined.

10. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Terakawa (5,601,851) in view of Gressett, Jr. et al (6,619,566).

Terakawa teaches the apparatus as discussed above. Terakawa also teaches the extrusion capillaries and the gas jet angled toward a common longitudinal axis (Fig 1).

Terakawa fails to teach the die having at least two gas jets.

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Gressett, Jr et al teach multiple gas jets (Figs 6-8, #98) for the purpose of circumferentially distributing air more uniformly to the liquid orifice (col 6, lines 42-52).

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the invention of Terakawa with multiple circumferential gas jets as taught by Gressett, Jr because it enables uniform distribution of air to the liquid orifice.

11. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Terakawa (5,601,851) in view of Gressett, Jr. et al (6,619,566) and Allen (6,491,507).

Terakawa teaches the apparatus as discussed above. Terakawa also teaches the gas jet angled toward a common longitudinal axis (Fig 1).

Terakawa fails to teach the die having at least two gas jets and fails to teach the extrusion capillaries parallel to each other.

Gressett, Jr et al teach multiple gas jets (Figs 6-8, #98) for the purpose of circumferentially distributing air more uniformly to the liquid orifice (col 6, lines 42-52). Allen teaches extrusion capillaries (Fig 2, #s 98 and 100) which are parallel to each other and along with gas jets (Fig 2) communicate with a blowing orifice (Figs 2 and 3) for the purpose of allowing the parallel capillaries to deliver individual liquids to a combining member.

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the invention of Terakawa with multiple circumferential gas jets as taught by Gressett, Jr because it enables uniform distribution of air to the liquid orifice and to have modified the apparatus of Terakawa with extrusion

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capillaries that are parallel rather than angled as taught by Allen because it enables the liquids of the separate capillaries to be combined.

References of Interest

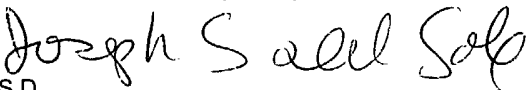
12. Krueger et al (6,057,256) is cited of interest to show the state of the art.

Correspondence

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Joseph S. Del Sole whose telephone number is (571) 272-1130. The examiner can normally be reached on Monday through Friday from 8:30 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Benjamin Utech, can be reached at (571) 272-1137. The official fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306 for both non-after finals and for after finals.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from the either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on the access to the Private PAIR system, contact the Electronic Business Center (EBC) at 886-217-9197 (toll-free).


J.S.D.
November 2, 2004